Guest Editorial: Special Issue - Physical Activity and Health

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Guest Editorial: Special Issue - Physical Activity and Health

When Editor in Chief, David Baxter, suggested a Special Issue focussed entirely on physical activity and health, Pernilla, Karin and I warmly welcomed the opportunity to Guest Edit this collection. As members of the Matariki Network Physical Activity Group[1], the topics contained within this issue are ones debated with relish when we meet as a group, particularly given the diversity of our own personal research interests across physical activity and health.

In terms of general primary prevention, links between physical inactivity and reduction of health risk are relatively well accepted within the public health domain[2]; similarly 'exercise prescription' or 'exercise referral' are common terms for secondary intervention schemes at the point of inactivity and already impaired health or well-being[3]. Recently, sedentary behaviour and the associated risk of adverse health has become a topic of notable research and debate[4]. In understanding the role of any kind of physical activity, from low levels of movement, through to moderate-to-vigorous exercise, as researchers, commissioners and practitioners, there is a myriad of key issues requiring consideration. For example, we might firstly look to the evidence to determine an optimal 'dose' of activity for a given health state, population group, or for general maintenance of good health. Secondly, issues associated with engagement in, and adherence to, activity programmes should not be underestimated and not necessarily due to the 'dose' being appropriate, but likely because of complex individual, social and environmental-level barriers to becoming and remaining active. These must be at least appreciated, if not anticipated, by all who are involved along the physical activity delivery continuum, be that in a school, a hospital or community

setting. Finally, our own understanding of the terms used in prescribing, referring, or suggesting 'activity' as a treatment or adjunct treatment is important. Indeed, this is something that I discuss with first year undergraduate students. Each of the terms 'exercise', 'fitness' and 'physical activity', for example, implies different things; furthermore, physical inactivity and sedentary behaviour are different constructs and should be considered as such. It is best left to the authors of the current special issue to expand on these matters and I hope that you will find their arguments of relevance, whatever your own interest might be in the wider fields of physiotherapy, physical activity and health.

Five papers comprise this Special Issue and each considers a different population group. In a mapping review, Helena Igelström and colleagues carefully examine optimal exercise modalities relating to different cancer diagnoses as well as different outcome measures relating to evidence of effectiveness, during and after curative cancer treatment. They latterly introduce the Phys-Can project which aims to overcome some of the knowledge gaps identified. Michelle Ploughman's narrative review explores the barriers to physical activity in people with MS. In doing so, Michelle highlights generic and tailored impairment-focused exercise programs and endeavours to further understanding of barriers to activity through her review of qualitative and quantitative research. A highlight of this piece is the practical consideration of logistics and final take home messages for those working with this group.

A pair of dedicated reviews from the paediatric physical activity field is included in this special issue: reducing sedentary behaviour (Ash Routen and

colleagues) and physical activity and fitness (Neil Armstrong). When these two reviews were invited, a short discussion was held regarding avoidance of potential content overlap. On the contrary, two substantially different pieces are presented and there is much to appreciate in terms of how the various physical activity-related constructs are defined and critically reviewed by the authors. In their discussion piece, Routen and colleagues explain movement integration as a strategy for reducing sitting (and thus sedentary) time in the classroom environment; the final section of this piece introduces a new movement integration project, Class-PAL, and the authors provide an insightful account of the co-production methods employed during the design of this project. In terms of enhancing implementation success for a given intervention, this work demonstrates excellent practice which may well benefit other areas of physical activity intervention work. Neil Armstrong is a leading international expert in the field of physiological aspects of physical activity and fitness in young people and we are delighted to have an up-to-date overview in the field for which he is renowned. Neil's discussion paper takes us on a detailed methodological journey considering the definition of maximal aerobic fitness in children and adolescents, culminating in a critical reflection on threshold fitness values predicting health outcomes. If you are not familiar with Neil's work I urge you to take a look – particularly if you work with young people in any capacity.

Our attention is drawn back to physical therapy in the final article of this special issue. In her narrative review, Maria Hagströmer highlights dose-response relationships between physical activity and health and in particular the differential response dependant on initial activity level. Importantly Maria goes on to review different methods of assessing physical activity and sedentary behaviour, and in doing so

highlights the important role of the physical therapist in supporting, maintaining and enhancing physical activity of individuals.

On a final note, thanks are due to the authors of each paper who have worked hard to ensure that their work is accessible to both a physiotherapy and non-physiotherapy audience. We hope that you enjoy this Special Issue.

1. Matariki Network of Universities https://matarikinetwork.org/

2. Das P, Horton, R. Physical activity – time to take it seriously and regularly. The Lancet. 2016;388: 1254-1255.

3. National Institute for Health and Care Excellence (NICE). Physical activity: exercise referral schemes (PH54) [online], 2014. Available from: http://www.nice.org.uk/guidance/ph54/resources/physical-activity-exercise-referral-schemes-1996418406085

4. Sedentary Behaviour Research Network. Letter to the Editor: Standardized use of the terms "sedentary" and "sedentary behaviours". Appl. Physiol. Nutr. Metab. 2012;37: 540–542